

Military Medicine Content in an Osteopathic Medical School's Curriculum

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The 2011 White House Joining Forces initiative,¹ which was created to better serve the military and veteran communities and their families, provided the impetus for the American Association of Colleges of Osteopathic Medicine (AACOM) to look at the manner in which the nation's colleges of osteopathic medicine (COMs) provide instruction in military-related medical issues. Unique to the challenges in caring for military service members and veterans is their potential to go from the most "fit" to the most disabled in an instant. Specific curricular content related to military medicine includes, but is not limited to, posttraumatic stress disorder (PTSD), traumatic brain injury (TBI), depression, and psychosocial issues related to military culture and family life.

In 2011, AACOM conducted a survey of the curricula taught at the various COMs. In providing data in response to the AACOM survey, I analyzed the complete curriculum taught at Georgia Campus-Philadelphia College of Osteopathic Medicine (GA-PCOM).

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Analysis of the Curriculum

Analysis of the complete curriculum at GA-PCOM revealed that nowhere in the first or second years are there any lectures specifically devoted to PTSD, TBI, or psychosocial issues related to military culture and military family life. Of the 9 hours that are devoted to depression and anxiety in the second year, approximately 2 hours are related to diagnosing and managing PTSD-related symptoms.

The first-year curriculum provides instruction in pain syndromes (6 hours), the neurologic examination (3 hours), pain (2 hours), general anesthetics (2 hours), and neurorehabilitation (2 hours). This content is related to, but not specifically aimed at, diagnosing and managing sequelae of PTSD and TBI. Additional content that is relevant to military medicine-related matters includes the content taught as part of the year-long, 3-course sequence "Preventive and Community-Based Medicine." Specific content and hours are as follows:

- epidemiology and biostatistics (15 hours)
- managed care (2 hours)
- introduction to preventive medicine and public health (1 hour)
- clinical preventive medicine (2 hours)
- community-based medicine (1 hour)
- toxicology (2 hours)
- occupational medicine (2 hours)
- environmental medicine (2 hours)
- occupational and environmental hazards (3 hours)
- infectious disease control (2 hours)
- core disaster life support (4 hours)
- basic disaster life support (8 hours)

Approximately 1 hour of the basic disaster life support course is devoted to

PTSD and TBI each.

Finally, additional content that is relevant to military medicine-related matters includes the neuromusculoskeletal content of the 2-year, 6-course sequence in osteopathic principles and practice and osteopathic manipulative medicine (OMM). Apart from combat-related injuries, the most common medical issues in service members include musculoskeletal injuries (especially low back pain and sprains and strains of the ankle and knee), exposure injuries resulting from heat and cold, and infection. The application of OMM to musculoskeletal injuries is well established. Similarly, as with the osteopathic approach to the patient with neurologic disease, OMM can improve head and body posture; increase stride length; increase hip, knee, and ankle flexion with increased distance between foot and floor, resulting in decreased falls; and improve quality of life and decrease depression in veterans who have lost extremities or have spinal cord injuries. Also, OMM may be applied to prepare the remaining portion of an amputated extremity by stretching tight, hypertonic muscles and increasing range of motion. It is also indicated to help manage the pain associated with somatic dysfunctions secondary to the symptoms resulting from viscerosomatic and somatosomatic reflexes and to help prevent and heal complications resulting from immobility.^{2,3} Osteopathic manipulative medicine may be used to treat patients with exposure injuries by enhancing the circulatory system (Zink's respiratory-circulatory model)⁴ and by applying lymphatic pump techniques to enhance the immune response and help eliminate infection.⁵⁻⁸ Of the

approximately 300 hours of instruction in OMM, only about 20 hours are directly related to the injuries and diseases commonly seen in service members and veterans.

Several of the required third-year clinical rotations take place at military hospitals and medical centers. Each 4-week rotation exposes osteopathic medical students to military culture and families by actively training within the military milieu. Nevertheless, students may or may not encounter PTSD, TBI, or depression. Osteopathic medical students enrolled in the Army, Navy, or Air Force Health Professions Scholarship Program are more likely to encounter patients with combat- or service-related syndromes of PTSD, TBI, or depression during required training rotations at military hospitals and medical centers.

In addition, extracurricular activities of the Student Association of Military Osteopathic Physicians and Surgeons chapter on campus devote approximately 8 hours annually to military culture and military medicine topics. These activities have historically been well attended by not only “military” osteopathic medical students (ie, recipients of the Army, Navy, or Air Force Health Professions Scholarship Programs or members of the US Reserve or US National Guard) but also by “civilian” osteopathic medical students.

Discussion

Only 87 hours of the first 2 years of the GA-PCOM curriculum provide any instruction related to military medicine topics. Of these 87 hours, only 4 hours are used to specifically address PTSD and TBI. Seven additional hours are devoted to depression-related diagnosis and treatment.

Given the potential problems caused by multiple deployments to a combat theater or area of responsibility by today’s 9/11-era veterans, it is extremely likely that the primary care and mental health physicians of

tomorrow—being educated today—will be diagnosing combat-related conditions and treating patients with PTSD, TBI, depression, and their sequelae related to military service. Unfortunately, the GA-PCOM curriculum does not provide sufficient instruction in PTSD, TBI, and depression, per se.

Analysis of only 1 COM curriculum is not statistically significant and has no external validity. Given that all COMs are accredited by the American Osteopathic Association Council on Osteopathic College Accreditation, there is little chance of substantial curricular variance among the COMs. It is possible to add 2 hours of instruction to diagnosis and management of TBI to the first-year clinical neurosciences course, and it is also possible to add 1 to 2 hours of instruction in diagnosis and management of PTSD or substitute 1 to 2 hours of instruction in PTSD for 1 to 2 hours of the current coverage of depression and anxiety in the second-year course in psychiatry. Even with today’s extremely dense course schedules, several hours can still be devoted to the diagnosis and management of PTSD, TBI, and depression.

The military disability evaluation system eventually results in the medical discharge or medical retirement of the severely injured service member. While these personnel are entitled to receive care at Department of Veterans Affairs medical facilities, the reality is that these facilities are located in more populated areas. Therefore, many veterans who cannot access veteran or military medical facilities must seek care in the civilian community. However, nonveteran civilian physicians traditionally trained outside of the military milieu may not be culturally or medically aware to look for certain signs and symptoms.

Many sequelae, especially those resulting from PTSD or mild TBI, may not be revealed for years or even decades after the inciting event during today’s combat environments.⁹⁻¹³ We

need trained physicians to provide the necessary care. The osteopathic medical profession is uniquely qualified to lead the way in this effort to educate and train future medical professionals with the skills and knowledge to “join forces” with, and care for, veterans and their families as they return to the civilian community.

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